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Abstract

The paper tests whether what appears to be a strong general theory of why organizations choose to acquire goods and services through contracting rather than in-house service provision, namely Domberger's theory of the Contracting Organization, applies in an IT context. The validity of that theory is tested using data from a survey of 235 senior IT managers. The paper concludes that, in a field still searching for appropriate theory, Domberger's work does indeed provide a very useful lens for understanding IT outsourcing. His four types of benefit of contracting—specialization, market discipline, flexibility, and cost saving—emerge as a concise summary of senior IT managers' explanations of why their organizations chose to outsource IT. The paper also tests Domberger's theory against IT outsourcing outcomes, and further develops a model of organizational satisfaction with IT outsourcing based on Domberger's four factors. Three hold up, but cost savings were not important in explaining organizational satisfaction with IT outsourcing for either smaller or larger organizations. This outcome is explained in terms of the performance influencing factors inherent in Domberger's own model, in the distinctive difficulties inherent in managing IT, and in the location, time period, and context of the research data used by our study.

1 INTRODUCTION

In the last decade, information technology (IT) outsourcing has emerged as an important tool for enabling organizations around the world to gain access to specific skills and services, focus on their core competencies, and in some cases, reduce the cost of IT service provision. During this period of IT outsourcing growth, much has been learned about what works and what does not, and numerous conceptual models for understanding when firms should and should not outsource have been proposed (see, for example, Ang and Straub 1998; Grover et al. 1998; Hui and Beath 2001; Kern and Willcocks 2002a; Lacity and Hirschheim 1995; Loh and Venkatraman 1992). While there is no shortage of studies about when, what, and how a firm should outsource IT, the search for an appropriate explanatory theory continues. One recent work, *The Contracting Organization* by economist Simon Domberger (1998), stands out as an attempt to provide a fundamental understanding of the economic incentives for contracting out services. Domberger conducted a series of empirical studies, surveys, and meta-analyses of "contracting out" of different services (Domberger and colleagues 1986, 1987, 1994, 2000). His findings have been that after controlling for other factors that affected costs, organizations that contracted out service provision were able to save about 20 percent of the cost without a drop

of service quality. Hodge's (2000) meta-analysis of 28 empirical studies, including three from Domberger and his colleagues, confirms this finding.

Many IT researchers will argue that Domberger's analysis is too simple, e.g., that IT outsourcing is much more complex than outsourcing of refuse collection. Kern and Willcocks (2002b) and Poppo and Lacity (2002), for instance, have argued that IT is not just another resource like advertising, or even human resources. If such authors are correct, Domberger's theory will probably break down when applied to IT outsourcing. Alternatively, if Domberger is correct, his theory will explain benefits, even for IT outsourcing. Hence the research question addressed in this paper: Does Domberger's general theory of the contracting organization explain IT outsourcing outcomes? The remainder of the paper is structured in four main sections. Section 2 summarizes Domberger's theoretical argument. The third section provides details of survey data available for this study. The fourth section uses principal components analysis to test the validity of Domberger's benefits categories. The fifth section tests the explanatory power of Domberger's four factors in explaining variance in organizational outcomes and satisfaction with IT outsourcing.

2 DOMBERGER'S THEORY OF THE CONTRACTING ORGANIZATION

According to Domberger (1998), the benefits of "contracting out," as he calls it, come from the four sources defined in Table 1. These sources of benefits apply to outsourcing generally, not just IT outsourcing. The first two benefits are benefit drivers that can apply to either purchaser or provider organizations, rather than benefits per se. To clarify the impact of IT outsourcing on a purchasing organization, the authors have constructed Table 2.

The first benefit driver in Table 1 is specialization. Domberger (Chapter 5, pp. 75-92) argues that if a firm contracts out something it is not so good at, it can devote its energies to doing more of what it is good at, and both parties will benefit. There are three points to note about the benefits of specialization:

- When contracting out leads to specialization in the service provider, the purchasing firm gains access to higher quality services such as higher quality advice.
- The level of competition in the service-provider market determines the extent to which the purchasing firm might see additional benefits (beyond access to high quality services) in terms of lower costs. This is discussed further in the market discipline row.
- Where contracting leads to specialization in the purchasing firm, the benefits will be found not in lower costs, but in increased revenue. Revenues will increase because the purchaser will benefit from its own economies of scale, offer a better quality or lower cost product or service, and so attract more customers.

Table 1. Domberger's (1998) Summary of Contracting Benefits

Title	Benefit
Specialization	"Specialization leads demonstrable economic benefits. By concentrating on activities in which an organization is relatively more efficient, total value added is maximized. It also facilitates the exploitation of scale economies." (p. 51)
Market discipline	"Market discipline provides a range of benefits, namely, focus by the purchaser on outputs not inputs, competition (contestability) between suppliers, choices by purchasers, and innovative work practices." (p. 51)
Flexibility	"Networks of small organizations linked to their clients via contract can adjust more quickly and at lower cost to changing demand conditions compared to integrated organizations." (p. 51)
Cost savings	"International studies show that significant cost savings are achieved by contracting, on average of the order of 20%. As a rule, efficiency gains need not lead to lower quality." (p. 51)

Table 2. Applying Domberger's Benefits to IT Outsourcing Contexts

Benefit Driver	How the Purchasing Organization Will Benefit
Specialization	• The purchaser sees benefits from concentration on its own core business in terms of increased profitability, through cost efficiencies and revenue gains. • The purchaser will have access to expert knowledge and skills, a particular benefit for smaller organizations. Such access can lead to improved IT services and cost savings to the vendor that may be passed on to the purchaser to a greater or lesser degree. • The purchaser will see cost savings if the vendor gains from specialization AND competition motivates the vendor to share those benefits.
Market discipline	• Competitive pressure is crucial to achieving cost savings, and at least similar quality. "As a rule, efficiency gains need not lead to lower quality" (Domberger 1998). • Clearer definition of services required can result in less wasted effort.
Flexibility	• The purchaser will find it easier to add and change vendors than to build and maintain services in-house. Such flexibility can result in considerable future cost savings. • Contracting out can provide scale and scope numerical, functional, and financial flexibilities.
Cost savings	• Contracting out can achieve cost savings averaging 20%. These should be measured relative to the cost of providing comparable services in-house. • Cost savings come from the above factors expressed through actualization of economies of scale, superior management practices through specialization over time, and the fact that, against Williamson (1975), internal transaction costs are, in practice, rarely less than those incurred from transacting with the market.

Secondly, Domberger (Chapter 3, pp. 38-48) regards market discipline as a source of benefit from contracting for two reasons. First, competition creates incentives for service providers to deliver services at lower cost (e.g., through innovations) and higher standards than they would feel motivated to deliver in a noncompetitive environment. Domberger argues that it is the threat of competition that drives the benefits, not whether the service provider is in-house or an external vendor. Secondly, market discipline requires the client organization to consider carefully the nature of the service required prior to contracting, and to develop output measures to judge service quality. Such measures, Domberger says, are often not clearly articulated prior to contracting out.

The third benefit source, flexibility, can be achieved by offering many smaller contracts to different providers for shortish time periods, e.g., 3 to 7 years (Domberger 1998, p. 131). Flexibility benefits also include headcount and financial and functional variability (i.e., access to resources on a pay-as-you-use basis).

The fourth benefit is cost savings. In particular, Domberger posits that cost savings flow from market discipline, which release, in the purchaser's favor, the specialization and production economies of scale, superior management practices, and comparable transaction costs the vendor can achieve, and can then, profitably, pass on to the purchaser.

Summarizing, Table 2 applies Domberger's theory to *IT outsourcing* from the *purchasing* organization's perspective. Some benefits may appear as cost savings; others will be less tangible. From his empirical studies, Domberger states that these four benefits areas represent both the reasons why organizations contract out, and also the benefits they can rationally expect, provided specialization, value capture, control, flexibility, organizational change, and sound contracts are efficiently operationalized and managed (Domberger 1998).

3 A MODEL OF ORGANIZATIONAL SATISFACTION WITH IT OUTSOURCING

In this paper, we test Domberger's theory against organizational rationales for IT outsourcing, and the actual benefits they receive. We make the distinctive contribution of developing and applying the model presented in Figure 1 to test the explanatory power of Domberger's benefit categories. The model assumes that Domberger's four factors (presented in Table 1) are valid for IT out-

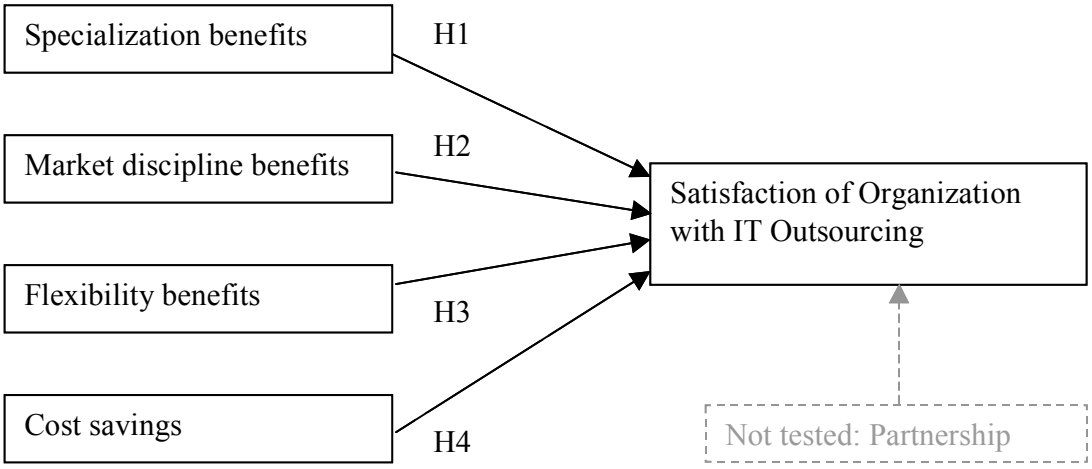


Figure 1. Explaining Organizational Satisfaction with IT Outsourcing

sourcing[1] and, in our own contribution to theory development, hypothesizes that each independently causes variance in *satisfaction of the organization with IT outsourcing*.

Most of the model is self-explanatory. Domberger's four factors are shown on the left. A key factor known to determine success with IT outsourcing, namely relationship management or partnership (Kern and Willcocks 2002a) is not tested because it is not in Domberger's list of sources of benefits. *Satisfaction* is used as the dependent variable in our model because it involves a weighing up of costs and benefits, often judged relative to expectations. With respect to the weighing up of costs and benefits, Naylor et al. (1980) define satisfaction as "the result of the individual taking outcomes that have been received and evaluating them on a pleasant-unpleasant continuum." Here, satisfaction seems very similar in meaning to Seddon's (1997) *perceived net benefit*. With respect to achievement of expectations, Lacity and Willcocks (2001, p. 151) judged outsourcing a success when "the outcome of IT sourcing decisions met expectations." In short, we chose *Satisfaction* as our dependent variable because it taps notions of both net benefit and expectations met or unmet.

4 METHOD

4.1 The Survey

To test the applicability of Domberger's theory to IT outsourcing, we use data from a recent survey of senior IT managers concerning their perceptions of the benefits or otherwise of IT outsourcing (Cullen et al. 2001). In late 1999, near the height of the dot-com boom, our survey of IT sourcing practices was mailed to senior IT managers in 1000 large Australian organizations. The list of organizations included what we judged to be the 500 largest organizations, by employment, and a 50 percent random sample from the next 1,000 largest organizations. It included both private and government sector organizations. Particular care (including many phone calls) was taken in developing a list of names of CIOs and senior IT managers in each organization. Among many other questions, the survey enquired about what was being outsourced, the reasons for and against outsourcing, and the outcomes from outsourcing. After one follow-up letter in January 2000, we received 235 responses. The response rate of 23.5 percent is higher than usual for surveys of this nature. Our respondents represent organizations employing 18 percent of all employees in private-sector organizations with 200 or more employees, and 12 percent of all employees in government organizations in Australia. This is a significant "chunk" of the workforce in large Australian organizations.

[1]This assumption is tested and confirmed valid in Analysis Step 1.

4.2 Contextual Information from Respondents

In order to have confidence in the analysis that follows, it is important to understand the respondents and their firms. Smaller organizations of less than 1,000 employees numbered 101, while larger organizations with 1,000 or more employees numbered 127. Of the surveyed organizations, 97 percent indicated that they spend a portion of their IT budgets on outsourcing (the average being 28 percent). The annual IT outsourcing budget for the 231 respondents to this question was approximately A$1.7 billion. Extrapolating this figure based on the ratio of employees in the respondent firms to employees in similar organizations Australia-wide, we estimate total Australian IT outsourcing expenditure was of the order of A$5 billion to A$8 billion in 2000. Expenditure on IT outsourcing was not industry-specific; it spanned all 19 industry sectors surveyed. Larger organizations outsourced slightly more of their IT, but the difference was not great.

Respondents were given a list of 23 IT services and asked to indicate for each service whether it (1) had not been formally considered for outsourcing; (2) had been considered and rejected; (3) was under current consideration for outsourcing; (4) had already been partially outsourced; or (5) had already been fully outsourced. The most frequently outsourced services relate to infrastructure, and to stable, mature operations. Over half of the respondents outsourced hardware support and maintenance, systems implementation, applications development, applications support, applications maintenance, WAN (wide area network) services, cabling and infrastructure in premises, and education and training. Generally, both smaller and larger organizations shared similar outsourcing patterns. However, *ad hoc* or project-based activities such as systems implementation, applications development, and communications were fully or partially outsourced 10 percent to 15 percent more frequently by smaller organizations.

5. RESULTS

5.1 Analysis Step 1: Do Domberger's Benefits Categories Apply to IT Outsourcing?

In our study, respondents were given a list of 21 possible reasons for outsourcing and asked to "tick all that applied" as primary or secondary reasons. Their responses are summarized in Table 3. The most popular reasons—those that were cited by more 50 percent of organizations as either primary or secondary—are highlighted in bold (Table 3).

Inspection of the highlighted items in Table 3 suggests that they correspond to all four of Domberger's advantages of contracting, namely, specialization (items 1, 3, and 6), market discipline (items 7 and 14), flexibility (items 8 and 11), and cost savings (items 9 and 15). Since all questions in the survey were prepared without influence from Domberger's (1998) work—most questions came from Lacity and Willcocks (2000) and from Cullen (1994, 1997), based on their extensive first-hand experience of issues that were important to managers involved in IT outsourcing—this means that the above intuitive grouping of items is already supportive of the validity of Domberger's benefits categories. Principal components analysis was used to see how respondents to the survey grouped items in their own minds. Responses were scored 0 if respondents indicated the item was not a reason for outsourcing, 1 if the item was a secondary or supporting reason, and 2 if it was a primary or driving reason for outsourcing. Due to missing responses to some questions, only 168 responses were used in the analysis. The rotated factor matrix is shown in Table 4. The first three factors are readily interpretable as three of Domberger's four reasons for contracting (specialization, cost savings, and flexibility). The best label for the fourth factor in Table 4 might be *better service*, rather than *market discipline*, although items 18 and 7 could be interpreted as indicators of market discipline.

In short, Domberger's four types of benefits from contracting—specialization, flexibility, cost saving, and something closely related to market discipline—appear to be a very good way of summarizing senior IT managers' explanations of why their organizations chose to outsource IT. The implication is that general theories of contracting do seem to explain IT outsourcing decisions, and that organizations considering outsourcing, and researchers who study outsourcing, should look for these types of benefits in evaluations of IT outsourcing deals. In addition, the discussion in the earlier section (see Table 1) suggests that benefits such as access to better advice, growth opportunities for the purchaser, and flexibility also need to be factored into the overall cost-benefit equation in such analyses.

Table 3. Reasons for Outsourcing IT Services

Rationale		Percentages of respondents			
		Not a Reason	**Secondary Reason**	**Primary Reason**	**Primary and Secondary Combined**
1	**Access to better or more skills/expertise**	9%	31%	60%	**91%**
2	**Unable to provide services internally**	28%	23%	49%	**72%**
3	**Concentration on core business**	23%	33%	43%	**76%**
4	**Better match of resource supply to demand**	28%	33%	38%	**71%**
5	**Access to better or more technology**	22%	41%	37%	**78%**
6	**Better use of in-house personnel**	27%	38%	35%	**73%**
7	**Obtain better service**	30%	35%	34%	**69%**
8	**Improve flexibility for the business**	35%	34%	31%	**65%**
9	**Reduce cost**	42%	30%	28%	**58%**
10	Compliance with outsourcing mandate	56%	16%	28%	44%
11	**Allow more flexible work practices**	49%	29%	22%	**51%**
12	**Enhance management control**	49%	34%	17%	**51%**
13	Rationalize assets	62%	22%	16%	38%
14	**Change users' accountability**	49%	37%	14%	**51%**
15	Reduce staff numbers	55%	32%	14%	46%
16	Shift from capital to operating expense	62%	25%	13%	38%
17	Industry or economic development	73%	17%	11%	28%
18	Dissatisfaction with internal providers	74%	20%	7%	27%
19	Temporary solution	84%	10%	5%	15%
20	Get penalties for non performance	85%	11%	3%	14%
21	Improve cash flow	89%	9%	2%	11%

Note: Number of respondents ranges from 186 to 200.

Table 4. Reasons for Outsourcing

Principal Components Analysis, listwise deletion of missing values; 21 questions, n = 168; eigen values > 1
Coding: Not a reason = 0, Secondary reason = 1, Primary reason = 2
Factors: 1 = Specialization; 2 = Cost savings; 3 = Flexibility; 4 = Market discipline (better service?)

		Factor					
		1	2	3	4	5	6
1	Access to better or more skills/expertise	.794					
6	Better use of in-house personnel	.780					
4	Better match of resource supply to demand	.698					
5	Access to better/more technology	.667					
3	Concentration on core business	.504					-.426
13	Rationalize assets		.757				
9	Reduce cost		.705				
16	Shift from capital to operating expense		.645				
15	Reduce staff numbers		.637				
21	Improve cash flow		.619				
12	Enhance management control		.440				
11	Allow more flexible work practices			.701			
14	Change users' accountability			.677			
8	Improve flexibility for the business	.507		.558			
18	Dissatisfaction with internal providers				.739		
7	Obtain better service				.561		
17	Industry or economic development					.751	
10	Compliance with OS mandate					.692	
20	Get penalties for non performance				.433	.623	
19	Temporary solution						.774
2	Unable to provide services internally						.622

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization.

5.2 Analysis Step 2: Do Domberger's Factors Explain Satisfaction with IT Outsourcing?

5.2.1 The Dependent Variable: *Organizational Satisfaction with IT Outsourcing*

The dependent variable in the model in Figure 1 is satisfaction of the organization with IT outsourcing. Respondents were given two prompts:

- "Overall, our organization is satisfied with the benefits from outsourcing"
- "Our organization is satisfied with the performance of our service provider"

and asked to rate their own overall success with IT outsourcing (which may involve a number of contracts) on a scale of 1 = strongly disagree to 7 = strongly agree.[2] Results for the first question above are shown in Figure 2. They show that 71 percent of the 192 respondents rated their overall satisfaction as neutral or above. The most frequent score was 5, from 63 respondents. Respondents dissatisfied with their outsourcing arrangements totaled 29 percent.

Responses to the second prompt were similar. Our *satisfaction* measure for the regression analysis below is an average of responses to these two prompts (Cronbach alpha reliability statistic 0.897). The distribution of satisfaction scores was independent of industry, organizational size, or percentage of IT outsourced. Service quality apparently did not suffer. In fact, the data from the survey (questions 7 and 18 in Table 5) actually showed a positive correlation ($r = 0.46$, $p < 0.01$) between cost savings and service quality improvement.

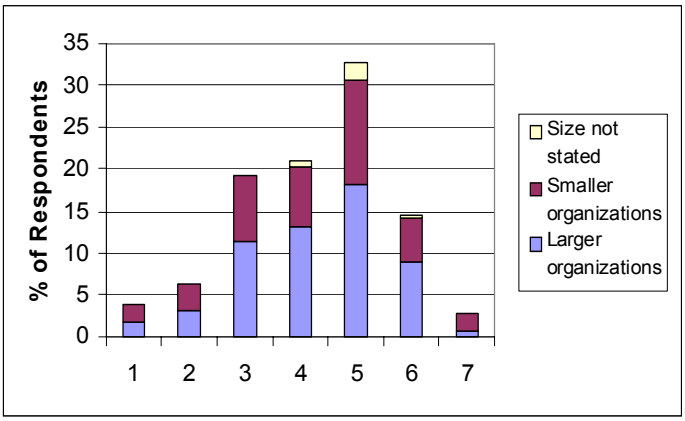


Figure 2. Overall Satisfaction with IT Outsourcing (192 Respondents)

5.2.2 Independent Variables: Domberger's Four Constructs

Respondents were given a list of 21 possible *outcomes* from outsourcing and asked to classify outcomes into substantial result, moderate result, none, and worse for all outcomes that applied to their organization. Table 5 shows the percentages of organizations that ticked each box. Note that although the prompts are the same as for Table 3, the earlier questions asked about *reasons for* outsourcing. The responses in Table 5 below are about *outcomes from* outsourcing. The most satisfactory outcomes—those where high numbers of organizations reported moderate or substantial results—are highlighted in bold. Also highlighted in bold is the least satisfactory outcome—reduced costs—where significant numbers of respondents reported the situation was worse as a result of IT outsourcing.

Principal components analysis was used to test whether responses to these *outcomes* questions grouped consistently with the 15 similar questions about reasons for outsourcing earlier in the survey (see Table 3). Responses were scored -1 if respondents indicated the outcome was worse than before outsourcing, 0 if there was no change, 1 for a moderate result, and 2 for a substantial result. Because of listwise deletion of missing values, only 85 observations were used in the analysis. Since the sample size is small and the ratio of observations to items is only 6:1 the analysis cannot be relied upon for defining factors (Tabachnick and Fidell 1989, p. 603). Nonetheless, two factors were readily interpretable as Domberger's *specialization* and *cost savings* factors. The third and fourth factors, *market discipline* and *flexibility*, were not clearly interpretable.

The frequency of missing values in the data set created a problem for analysis. Second generation analysis techniques such as LISREL and PLS require that scores for all indicators for all latent constructs must be available. With the present data set, that reduced the number of usable observations to 85. However, mean scores can be computed even if one item is missing. With the present data set, use of mean scores allowed us to use data from 165 respondents, not just the 85 who completed all 15 questions of interest. The compromise is between use of data from more respondents and fidelity of measurement. For this study, we decided to use data from the 165 respondents, which forced us to calculate mean scores and use ordinary least squares (OLS) regression as our analysis tool. After examining Cronbach alpha reliability coefficients, we decided to use the following questions from Table 5 for computing scores for the four independent variables: *specialization*, the mean of questions 2, 3, 4, 5, and 6 (Cronbach alpha = 0.81); *market discipline*, question 7 only (obtain better service); *flexibility*, question 8 only (improved flexibility for the business); and *cost savings*, the mean of questions 10, 11, 15, 18, and 21 (Cronbach alpha = 0.72).

[2]The first question is similar to the overall satisfaction question from Grover et al. (1996, p. 115). The second question is based on a question from Lacity and Willcocks (2000) that asked respondents to rate supplier performance from poor, through satisfactory, to excellent.

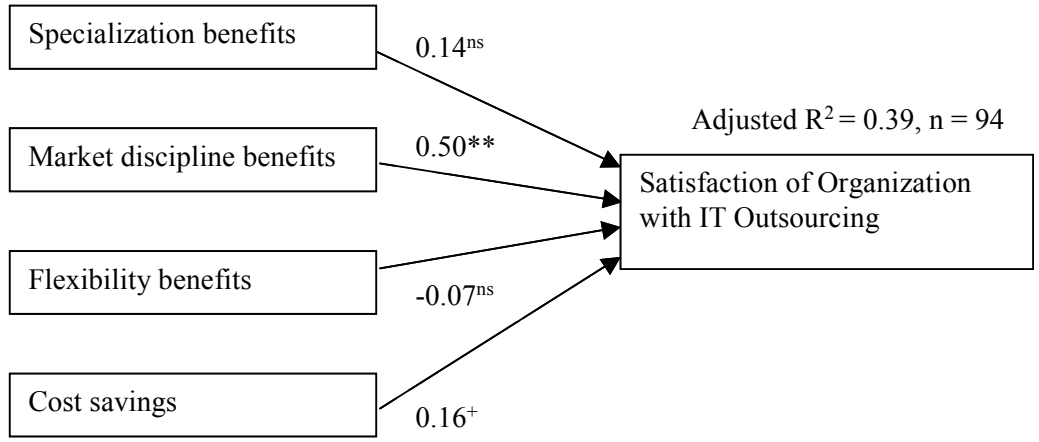
Table 5. Outcomes from IT Outsourcing

		Percentages of Respondents				
	Outcome	Worse	None	Moderate Result	Substantial Result	Number of Respondents
1	**Access to services could not provide internally**	2%	8%	**47%**	**43%**	191
2	**Access to better or more skills/expertise**	2%	12%	**45%**	**41%**	188
3	**Better use of in-house personnel**	2%	13%	**59%**	**26%**	170
4	**Better match resource supply to demand**	3%	17%	**56%**	**23%**	172
5	**Concentration on core business**	1%	20%	**57%**	**22%**	166
6	**Access to better/more technology**	1%	29%	**49%**	**21%**	175
7	**Obtained better service**	8%	18%	**58%**	**17%**	173
8	**Improved flexibility for business**	6%	26%	**53%**	**14%**	172
9	**Enhanced management control**	5%	28%	**52%**	**15%**	165
10	Reduced staff numbers	3%	40%	40%	17%	162
11	Shift from capital to operating expense	1%	35%	46%	18%	130
12	Changed users' accountabilities	1%	43%	48%	8%	167
13	Allowed more flexible work practices	4%	38%	46%	12%	161
14	Compliance with OS mandate	1%	40%	35%	25%	126
15	Rationalized assets	2%	43%	44%	12%	147
16	Have penalties for non performance		59%	36%	4%	135
17	Industry or economic development		65%	28%	6%	124
18	**Reduced cost**	**22%**	36%	35%	7%	173
19	Dissatisfaction with internal providers	2%	67%	26%	4%	123
20	Temporary solution	1%	66%	28%	5%	104
21	Improved cash flow	4%	69%	21%	6%	121

5.2.3 Testing the Model of Satisfaction with IT Outsourcing

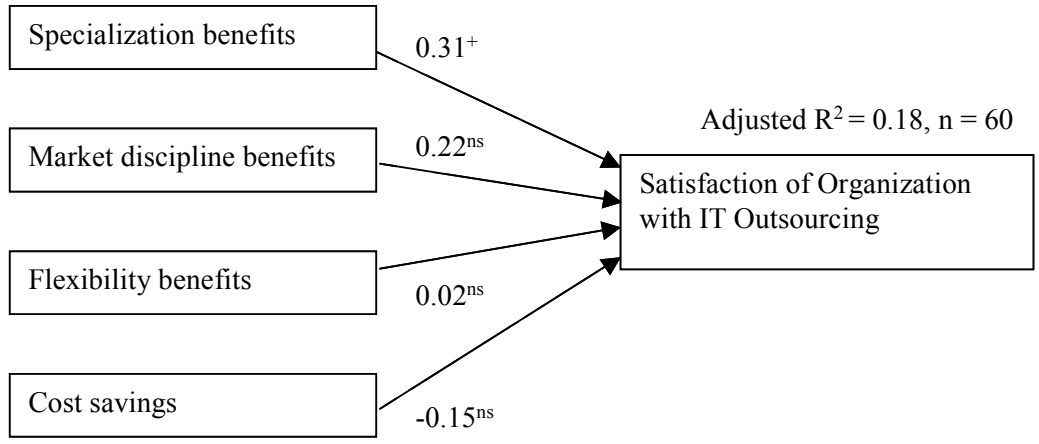
Testing the model in Figure 1 using OLS regression and the data from all 165 respondents, path coefficients for *specialization* benefits and *market discipline* benefits were both significant (0.22, $p = 0.021$, and 0.37, $p = 0.000$, respectively, Adjusted $R^2 = 0.28$). (Path coefficients for *flexibility* and *cost savings* were not significant.) However, further testing showed that these factors were not equally significant for organizations of different sizes. Since the results from the more detailed analyses are more informative, and space is limited, only the more detailed results are reported here.

Results from the regression analysis for the larger organizations (organizations with 1,000 employees or more) are shown in Figure 3. Those for smaller organizations are shown in Figure 4. The results are quite surprising. The most significant factor that influences satisfaction for larger organizations is *market discipline* (specifically, obtaining better service). At conventional confidence limits, there were no significant factors to explain *satisfaction* for smaller firms. *Cost savings* was barely significant for the larger firms ($p = 0.075$) and not significant for the smaller firms. Is there some sort of mistake here? Why is *cost savings* not the primary determinant of satisfaction? Reviewing the data we find that the *cost savings* result is not a mistake. In results reported in Table 3, *cost savings* was reported as a primary reason for outsourcing by only 28 percent of organizations. The respondents' main reason for outsourcing (a primary reason for 60% of respondents) was to access better or more skills.



Significance: **p < 0.01, +p < 0.10 , nsnot significant

Figure 3. Overall Satisfaction with IT Outsourcing for Larger Organizations (Organizations with 1,000 or More Employees)



Significance: +p < 0.10 , nsnot significant

Figure 4. Overall Satisfaction with IT Outsourcing for Smaller Organizations (Organizations with Less Than 1,000 Employees)

Another possible explanation of the lack of significance of *cost savings* in explaining variance in *satisfaction* is that the statistical analyses show quite high correlations between our measures of *specialization* (S), *market discipline* (M), and *flexibility* (F). Could collinearity problems be the reason for the relative unimportance of *cost savings*? Averaging the three aforementioned variables to create a new variable, *SMF*, and rerunning the regressions eliminates any collinearity problems. Coefficients from the now two-independent-variable model for larger organizations were *SMF* (0.43, p = 0.000) and *Cost savings* (0.13, p = 0.17), with an Adjusted $R^2 = 0.23$. Corresponding coefficients for smaller organizations were *SMF* (0.48, p = 0.000) and *cost savings* (-0.08, p = 0.49), with an Adjusted $R^2 = 0.19$. *Cost savings* is not significant in either regression!

Our conclusion is that, at least for this data set, factors other than cost savings were the most important determinants of satisfaction with IT outsourcing. There is no question in our minds that cost reduction is an important general ***reason*** for contracting out (Hodge 2000). This has also been confirmed in study after study of IT outsourcing (Ang and Straub 1998, p. 543; DeLooff 1995; Lacity and Willcocks 1998, 2001, pp. 27-28; McLellan et al.1995; Sobol and Apte 1995).

But there are other benefits from outsourcing. Benefits such as opportunity costs avoided through access to specialized knowledge and concentration on the core business (specialization benefits) and improved service from external providers (a market-discipline benefit) are evidently also important drivers of satisfaction. One explanation of the relatively low significance of *cost savings* in Figures 2 and 3 is that cost savings may be like a hygiene factor (Herzberg et al. 1959). In other words, if costs rise, management may be dissatisfied. However if costs are perceived to be under control, other factors, such as improved service quality, drive satisfaction. A second possible confounding factor is that the survey was conducted between November 1999 and February 2000, at the very height of the dot-com boom. At that time, *cost savings* may not have been an important factor in IT managers' minds. Perhaps if the survey were repeated today, in a more recessionary climate, cost savings would be a significant factor in explaining satisfaction with IT outsourcing.

There are other, possibly related, explanations. First, at the time of the study Australia was experiencing considerable IT skills shortages. Australia also, relatively, has a higher percentage of smaller organizations than Western economies such as the United States and the United Kingdom. In such a situation, while large cost savings might not be coming through as a result of IT outsourcing, satisfaction might be skewed toward actually getting the IT work done and actually having the skills available rather than towardcost savings delivered, or even quality of service achieved. Second, as Domberger stresses throughout his work, cost savings are a product of how well specialization, value capture, control, flexibility, organizational change and sound contracts are efficiently operationalized and managed. It may well be the case, as others have argued, that IT outsourcing is more difficult to operationalize and manage effectively than other types of activity such as catering and advertising, not least because the economics are not easy to gauge and are still not well understood. Moreover, they change quickly. New technologies can change economic equations dramatically. Additionally, according to Kern et al. (2002), in about 20 percent of IT outsourcing contracts, suppliers cannot make a reasonable profit and so search for additional services and revenues not covered by the contract, resulting in hidden costs to the purchaser.

6 CONCLUSIONS

The major limitation of this study is that the data on which the analyses are based were not purpose-collected for the study. This caused three problems. First, the 21 questions used to collect the data were not designed from the outset to measure Domberger's factors. As a result, the *market discipline* construct was not measured as well as one would like. Second, the questionnaire was very long (eight pages), and for the questions used for this paper, respondents were asked to "tick all that apply." This meant that many respondents did not answer all questions (even when there was a checkbox headed "not applicable"). As a result, there were a large numbers of missing values. This, in turn, forced us to use mean scores for computing some variables and OLS regression analysis instead of second-generation analysis techniques. Third, we did not use seven-point Likert scales for all questions.

The main contribution of this exploratory study is that it shows that Domberger's theory of the contracting organization *does* seem valid in an IT context. Evidence of the validity of Domberger's factors is presented in the form of the principal components and the OLS regression analyses presented. By providing explanations of variance in organizational satisfaction with IT outsourcing, the regression analyses also yield two additional contributions:

- They suggest that satisfaction with IT outsourcing is driven by different factors for larger organizations (defined in this study as those with more than 1,000 employees) than for smaller ones.

- Although cost is clearly an important consideration in any form of contracting out, cost savings were not significantly associated with satisfaction with outsourcing for either larger or smaller firms. We posit that there are particular factors associated with IT outsourcing economics, but also the timing and context of, and type of, organizations in the survey help to explain this outcome.

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